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this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required therefor (including fees for net addition of claims) are hereby authorized to be charged to our Deposit Account No. 19-0036.

Amendments

In the Claims:

Please cancel claims 1-34 without prejudice or disclaimer.

Please add the following claims:

35. (New) A nucleic acid molecule comprising two or more copies of a repeat-containing sequence,

wherein said repeat-containing sequence is a double-stranded polynucleotide having from about 5 to about 1000 base pairs, and wherein the top strand of said repeat-containing sequence has substantially the same percentage of each respective nucleotide as in the bottom strand, and

wherein a restriction site separates adjacent copies of said repeat-containing sequence.

36. (New) The nucleic acid molecule of claim 35, wherein said nucleic acid molecule is a DNA molecule.

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37. (New) The nucleic acid molecule of claim 35, wherein said nucleic acid molecule is an RNA molecule.

38. (New) The nucleic acid molecule of claim 35, wherein said nucleic acid molecule is a DNA/RNA hybrid molecule.

39. (New) The nucleic acid molecule of claim 35, wherein said repeat-containing sequence is a double stranded polynucleotide having from about 5 to about 100 base pairs.

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40. (New) The nucleic acid molecule of claim 35, wherein said repeat-containing sequence is a double stranded polynucleotide having about 10 base pairs.

41. (New) The nucleic acid molecule of claim 35, wherein said repeat-containing sequence comprises a palindromic nucleotide sequence.

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42. (New) The nucleic acid molecule of claim 41, wherein the nucleotide sequence of the top strand of said repeat-containing sequence is selected from the group consisting of: ATCTCAGGAT, ATCAGTCGAT, ATCGCATGAT, ATCATGCGAT, and complements thereof. *Seq I.D?*

43. (New) The nucleic acid molecule of claim 35, wherein said nucleic acid molecule comprises from about 2 to about 500 copies of said repeat-containing sequence.

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44. (New) The nucleic acid molecule of claim 35, wherein said nucleic acid molecule comprises from about 20 to about 100 copies of said repeat-containing sequence.

45. (New) The nucleic acid molecule of claim 35, wherein said nucleic acid molecule comprises from about 200 to about 300 copies of said repeat-containing sequence.

46. (New) The nucleic acid molecule of claim 35, wherein said restriction site is a restriction site that produces blunt-ends upon restriction digestion.

47. (New) The nucleic acid molecule of claim 46, wherein said restriction site is selected from the group consisting of: *AluI*, *DraI*, *Eco47III*, *EcoRV*, *FspI*, *HpaI*, *MscI*, *NruI*, *PvuII*, *RsaI*, *ScalI*, *SmaI*, *SspI*, *StuI*, *ThaI* and *DraI*.

48. (New) The nucleic acid molecule of claim 35, wherein said restriction site is a restriction site that produces sticky-ends upon restriction digestion.

49. (New) The nucleic acid molecule of claim 48, wherein said restriction site is selected from the group consisting of: *AvaI*, *BamHI*, *BanII*, *BglII*, *ClaI*, *EcoRI*, *HindIII*, *HpaII*, *KpnI*, *MseI*, *NcoI*, *NdeI*, *NotI*, *PstI*, *PvuI*, *SacI*, *Sall*, *XbaI* and *XhoI*.

50. (New) The nucleic acid molecule of claim 35, wherein said nucleic acid molecule is in circular form.

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51. (New) The nucleic acid molecule of claim 35, wherein said nucleic acid molecule is in linear form.

52. (New) A vector comprising the nucleic acid molecule of claim 35.

53. (New) The vector of claim 52, wherein said vector further comprises one or more origins of replication and one or more selectable markers.

54. (New) The vector of claim 52, wherein said vector is pAH102.4

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55. (New) A sizing ladder comprising two or more nucleic acid fragments, wherein said sizing ladder is produced by at least partially digesting the nucleic acid molecule of claim 35 with a restriction endonuclease that cleaves at said restriction site.

56. (New) The sizing ladder of claim 55, wherein said two or more nucleic acid fragments are of varying sizes, and wherein the size of each nucleic acid fragment is a multiple of the size of said repeat-containing sequence.

57. (New) The sizing ladder of claim 56, wherein said sizing ladder comprises multiple nucleic acid fragments increasing in size by 10 base pair increments, the largest fragment being 330 base pairs in length.

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58. (New) The sizing ladder of claim 55, wherein said nucleic acid fragments are single stranded.

59. (New) The sizing ladder of claim 55, wherein said nucleic acid fragments are detectably labeled.

60. (New) The sizing ladder of claim 59, wherein said nucleic acid fragments are detectably labeled with a radiolabel, a fluorescent label or a chemiluminescent label.

61. (New) The sizing ladder of claim 58, wherein said nucleic acid fragments are detectably labeled.

62. (New) The sizing ladder of claim 61, wherein said nucleic acid fragments are detectably labeled with a radiolabel, a fluorescent label or a chemiluminescent label.

63. (New) A host cell comprising the nucleic acid molecule of claim 35.

64. (New) A host cell comprising the vector of claim 52.

65. (New) A method for making a sizing ladder, said method comprising:
(a) mixing the nucleic acid molecule of claim 35 with a restriction enzyme that cleaves at said restriction site; and

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(b) incubating said mixture under conditions favoring the cleavage of said nucleic acid molecule at said restriction site.

66. (New) The method of claim 65, further comprising treating said mixture under conditions favoring the formation of single-stranded nucleic acid molecules.

67. (New) The method of claim 66, wherein said conditions favoring the formation of single-stranded nucleic acid molecules are heat denaturation or chemical denaturation.

68. (New) A method for determining the size of a nucleic acid molecule, said method comprising:

(a) separating the sizing ladder of claim 55 and said nucleic acid molecule according to size; and
(b) determining the size of said nucleic acid molecule by comparison to said sizing ladder.

69. (New) The method of claim 68, wherein said separating is accomplished by electrophoresis on an agarose gel.

70. (New) The method of claim 68, wherein said separating is accomplished by electrophoresis on a polyacrylamide gel.

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71. (New) A kit comprising one or more containers, wherein a first container contains the nucleic acid molecule of claim 35.

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72. (New) A kit comprising one or more containers, wherein a first container contains the sizing ladder of claim 55.
